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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,876	08/10/2004	Gerard James Hayes	U04-0063.091	4875
24239 7590 08/24/2007 MOORE & VAN ALLEN PLLC P.O. BOX 13706 Research Triangle Park, NC 27709			EXAMINER JACKSON, BLANE J	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 08/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/710,876

Applicant(s)

HAYES ET AL.

Examiner

Blane J. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

The amendment to the claims resolves the USC 112 1st paragraph issues however, the language of claims 2 and 10 is not entirely clear with respect to the invention.

Claim Objections

The invention and claims 2 and 10 are understood to relate the **electro-magnetic waves** sourced by components in the device are **coupled to** the metallized areas, then attenuated by the metallized area plus components to prevent **scattering electro-magnetic waves** from emitting from the edge of the PCB. However, these distinctions are not clear in the claim language. Consequently, it is suggested to amend the claims to make these functions clear in form similar to the language used in the following rejection.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The Drawings must show every feature of the invention specified in the claims. With respect to claims 4-7, the illustrated EM field shown over the respective PCB confuses the function of the invention. The coupling of the currents from the EM field with subsequent attenuation of the currents must be shown to clarify it is the board edge emissions that are attenuated

rather than the suggestion of the original EM field. The basis for this opinion is best summarized in the Abstract. Correction without the introduction of new matter is required.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

The Information Disclosure Statements filed 01 September 2005 and 14 December 2006 are made of record.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steigerwald et al. (US 6,150,895) in view of Tsujiguchi (US 6,791,434).

As to claims 2 and 10, Steigerwald teaches a mobile phone and method of attenuating scattering electro-magnetic waves *from the edge of metallized areas* within a mobile phone that are caused by components within the modified phone (figure 5, column 6, lines 33-60, currents generated by circuit board components propagate along the voltage plane towards the transition region (507) where the geometric pattern provides a deliberate increase in the impedance between the power planes providing an RF voltage drop to forming TEM waves at the board edge).

Steigerwald further teaches the overall effect of this transition region is to provide a low pass filter function utilizing inter-planar inductance and bi-planar capacitance which significantly attenuates high frequency emissions, column 6, lines 44-47.

Steigerwald discloses this transitions region of a metal pattern is effective at high frequencies and can be adjusted by manipulating the inductance values of the region, column 6, lines 55-60. However, Steigerwald does not teach the transition region is modified by placing discrete components near an edge of the metallized area, the discrete components obstructing a current path such that electric current *due to electro-*

magnetic waves coupled to the metallized area encounters higher impedances due to the discrete components near the edge of the metallized area, the high impedances attenuating the scattering electro-magnetic waves.

Tsujiguchi teaches a Bessel low pass filter comprising inductive micro strip lines and capacitive, inductive and resistive lumped components mounted on a circuit board, figures 21 and 22, column 1, lines 52-67.

Since Steigerwald discloses the low pass response of the transition region is not effective at low frequencies where the pattern size of the series inductors and shunt capacitances are too small to be effective at low frequencies, column 7, lines 41-59, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the lumped components of the low pass filter of Tsujiguchi to the transition region of Steigerwald to effectively attenuate low as well as high frequency waves coupled to the metallized area.

As to claims 3-6 and 11-14 with respect to claims 2 and 10, Tsujiguchi of Steigerwald modified teaches the discrete components include a combination of resistors, capacitors and inductors (figure 21, resistors R1-R4, inductors L1-L4, L1'-L4' and capacitors C1-C4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-

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7890. The examiner can normally be reached on Monday through Thursday, 7:30 AM-6:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Brian J. John". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.